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(54) Title: DIGITAL TRADING CARD, SYSTEM, AND METHOD		
(57) Abstract		
<p>A communication network based system for distributing, collecting, playing, and trading digital trading cards (30) and other digital collectibles is disclosed. The system preferably includes the digital trading cards, a server (10) and related databases, user computers (80), and user software for accessing the digital trading cards (30). In the preferred embodiment, the digital trading cards (30) are issued in limited editions and the digital trading cards (30) are uniquely associated with a user that has purchased (20) and downloaded the cards. The digital trading cards (30) may then only be accessed by the user (80). The digital trading cards include multiple faces. Preferably, a first front of the cards includes an artwork (e.g., a photo, an illustration, or an enhanced photo composition) and a second front includes an audio/visual screen. The digital trading cards also preferably have multiple backs which may include, for example, information on a particular person or topic as well as games. Moreover, the cards can access the server (10) to download and display current information in real-time. Advantageously, one of the faces of the limited edition cards may also display the unique serial number for the card. Users may also connect to the server (10) to utilize the cards in on-line games (60).</p>		<pre> graph TD SERVER[SERVER 10] --- CARDS["CARDS DataBase 30"] SERVER[SERVER 10] --- SUBSCRIPTIONS["SUBSCRIPTIONS DataBase 40"] SERVER[SERVER 10] --- USERDB["USER DataBase 50"] SERVER[SERVER 10] --- GAMES[ON-LINE GAMES 60] SERVER[SERVER 10] --- INTERFACE[INTERFACE 70] INTERFACE[INTERFACE 70] --- USER1["USER 80"] INTERFACE[INTERFACE 70] --- USER2["USER 80"] INTERFACE[INTERFACE 70] --- USER3["USER 80"] </pre>

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Digital Trading Card, System, and Method

Field of the Invention

The present invention relates to a communication network based system for digital trading cards and other collectible objects. More particularly, the present invention relates to a communication network based system for distributing, collecting, playing, and trading digital trading cards and other collectible objects.

Background of the Invention

10 Collecting sports trading cards, stamps, posters, and other collectibles has long been a popular pastime. In recent years, the market for these items, particularly trading cards, has expanded and become even more popular. With that expansion, paper cards have become more advanced 15 and are increasingly becoming more expensive to produce and purchase. Moreover, the after-market value for cards has continued to increase, with prices for certain rare cards reaching five figures.

While these cards and other collectibles continue to 20 fascinate the general public, as computers and the internet become more popular, collectors are looking for more exciting and more advanced collectibles. Moreover, the ability to more easily trade such collectibles is desirable.

Summary of the Invention

25 The present invention is directed to a communication-network based digital collectible object system which includes means for registering users via a communication network, means for downloading digital collectible objects to the users, and means for uniquely electronically associating 30 each digital collectible object that has been downloaded to each user so as to limit access to each object.

The system may also include means for transferring via the communications network a digital collectible object that was previously downloaded to a first user's computer to a 35 second user's computer such that the unique association between the first user and the previously downloaded digital collectible object is transferred to the second user such

that the first user may no longer access the digital collectible object. Preferably, the means for registering users documents the transfer of the unique association.

The system preferably includes an on-line game means 5 that utilizes the digital collectible object or a user's ownership of the digital collectible object. The system also preferably includes a means for downloading to the digital collectible object data which is accessible within the object. Preferably, the digital collectible object is a 10 sports card, and the means for downloading data downloads updated statistics to the sports card.

The system may also include means for calculating and displaying the value of the digital collectible objects that have been released by the system. In the preferred 15 embodiment, the digital collectible object is a card, and the card includes at least three faces.

The present invention is also directed to a method of uniquely associating a digital collectible object to a specific user in a communication network based digital 20 collectible object system. The method includes registering the user via the communication network with a user identifier, providing user-software to the user's computer which uniquely associates the user-software with the user, and downloading the digital collectible object to the user's 25 computer. The downloading step uniquely associates the digital collectible object with the user-software such that the digital collectible object may not be accessed without the user-software and the user identifier. Preferably, the user identifier is a username and a password.

According to another teaching of the present invention, 30 the step of registering creates a registration number unique to the user. Moreover, the step of providing the user-software to the user's computer may include associating the user-software with the registration number. Still further, the step of providing the user-software to the user's 35 computer may include associating the user-software with the user identifier.

The method may also include the step of displaying within the digital collectible object an identifier code indicative of the unique association between the digital collectible object and the user. Preferably, the identifier code is a serial number.

According to yet another teaching of the present invention, the step of providing includes creating a directory in the user's computer. Moreover, the step of downloading the digital collectible object to the user's computer may include updating the directory in the user's computer.

The present invention is also directed to a digital trading card which comprises a first face, a second face, and a third face, wherein at least one of the faces includes a video file. Moreover, at least one of the faces preferably includes scrolling text. Also, at least one of the faces may include a game that may be played by the user. Still further, at least one of the faces is capable of accessing via a communications network information which is accessible within the card. Moreover, at least one of the faces may include an identifier code indicative of the unique association between the digital collectible card and the owner of the card. Preferably, the identifier code is a serial number of a limited set of serial numbers.

The present invention is also directed to a communication-network based digital collectible card system comprising a server connected to the communication network, a plurality of user computers connected to the communication network and loaded with user-software, the user-software being uniquely associated with each user via the server, and at least one digital collectible card that has been downloaded to at least one user computer, the digital collectible card being uniquely associated with said at least one user's computer, wherein the digital collectible card includes at least three faces.

The present invention is also directed to a method of operating digital trading cards in a communication network

based digital trading card system comprising a server connected to a communications network, and a plurality of user computers loaded with user-software for operating the digital trading cards. The method comprises displaying a 5 first digital trading card on a user's computer, displaying at least one other digital trading card on the user's computer, and arranging the first and the at least one other digital card in a predetermined arrangement so as to display on the user's computer a previously hidden display.

10 Brief Description of the Drawings

FIG. 1 is a schematic diagram depicting an overview of the present system;

FIG. 2 is a schematic diagram of a user computer system that may be used in the communication network based system of the 15 present invention;

FIG. 3. is a flowchart depicting the preferred process for registering users;

FIG. 4 is a flowchart of the preferred process of downloading user software to a user's computer according to a first 20 embodiment of the present invention;

FIG. 5 is a flowchart depicting the preferred process of installing user software according to the first embodiment of the present invention;

FIG. 6 is a flowchart depicting a preferred process of 25 converting previously installed generic user software into registered user software according to another embodiment of the present invention;

FIG. 7 is a flowchart depicting a preferred process for purchasing digital trading cards;

30 FIG. 8 is a flowchart of a preferred process for downloading a digital trading card to a user's computer according to the first embodiment of the present invention;

FIG. 9 is a flowchart of a preferred process of installing a digital trading card to a user's computer according to the 35 first embodiment of the present invention;

FIG. 10 is a flowchart depicting a preferred process of downloading and installing a digital trading card to a user's

computer according to the other embodiment of the present invention;

FIG. 11(a) is a flowchart of the general operation of the user software;

5 FIG. 11(b) is a depiction of the main screen of the user software according to the first embodiment of the present invention;

FIG. 12 depicts illustrative front faces of digital trading cards;

10 FIG. 13 depicts an illustrative second front face of a digital trading card;

FIG. 14 depicts an illustrative back face of a digital trading card;

15 FIG. 15 depicts an illustrative second back face of a digital trading card;

FIG. 16 depicts an illustrative third back face of a digital trading card;

FIG. 17 depicts an illustrative fourth back face of a digital trading card;

20 FIG. 18 depicts an illustrative surprise back face; and

FIG. 19 is a flowchart depicting a preferred process for trading cards according to the present invention.

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Detailed Description of Preferred Embodiments of the Invention

The operation of the present invention, including the interaction and operation of both the digital trading cards 5 and the user software of the present invention will be discussed in detail below. However, a brief overview of these and related concepts is included here to assist the reader in understanding applicant's invention.

A digital trading card is a card comprising a multi-
10 media object combining content, which may include: video, audio, images, animation, artwork and textual information, and unique behavior and identity. The cards are constructed to be viewed only through a user software application (defined herein as the "viewer") that preferably is
15 downloaded by the user.

Generally, the digital trading cards are made available in limited editions. Each limited edition digital trading card is a combination of a multi-media applet delivered to a user and installed on his computer with a database definition 20 that links it to a defined limited edition card or set with unique serial numbers and user ownership.

A collectible card is a digital trading card that has been issued in a limited edition and which may be serialized. The serialization of the cards is linked to users through a
25 viewer which has been uniquely associated with the user.

Thus, users may view only those collectible cards that have been downloaded to the particular user's viewer. The storing of serial numbers relating to the collectible cards with the registered user's database records also provides the basis
30 for the trading of the collectible cards. Each serial number is associated with at most one registered user to represent the ownership of each collectible card.

The viewer is basically a software version of a trading card shoebox or album. Collectible cards are stored on disk, 35 or other storage medium, in a directory setup by the viewer installation. The viewer allows the user to view all cards

registered to the user defined in a keyfile that is associated with the installed viewer.

There are two versions of an installed viewer: 1) an unregistered generic viewer, and 2) a registered viewer. A 5 user accessing an unregistered generic viewer is incapable of viewing collectible cards. That is, the user may only view cards which are not issued in limited editions and are not serialized. The user is not capable of installing or using collectible cards into a generic viewer.

10 All installations of collectible cards must be made into an installed registered viewer that is registered to the same account as the collectible cards being installed. The registered viewer restricts access to collectible cards to the registered user by requiring the entry of a unique user 15 identification code in order to access the viewer functions. In the preferred embodiment, this user identification code includes a username and password. Once a username and password has been entered and authenticated, the viewer will allow the user to view the collectible cards that are 20 registered to the user's account.

Keyfiles are encrypted files intended to be read only by the viewer. The viewer is capable of opening and updating keyfiles. The viewer uses the keyfile to determine which user is capable of accessing the viewer (in the preferred 25 embodiment, only the username and password contained in the keyfile can be used to open a registered viewer) and which cards the user may access.

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All pertinent information about the collectible card is stored in the keyfile. In the preferred embodiment, the name 30 of the collection to which the collectible card belongs, the name of the set to which the collectible card belongs, the name of the collectible card, the registration number of the user, the serial number of the collectible card, and the location/filename of the collectible card are stored in the 35 keyfile.

Since a user may own multiple copies (serial numbers) of a particular collectible card, multiple entries for a

particular collectible card may occur within a keyfile differing only in the serial number associated with the entry.

4 Generic keyfiles contain information related to generic
5 cards that are made accessible via a generic keyfile. These cards are not considered collectible cards as they are not issued in limited editions and are not uniquely serialized.

With this general understanding, an illustrative description of a user computer system that may be used in
10 connection with the present invention follows. Next, the process of downloading and installing the viewer and cards to a user's computer according to the preferred embodiments of the present invention is described. Then, the features of the cards are discussed, along with the interaction between
15 the server, the viewer, and the cards. A discussion of the trading function provided by the system of the present invention is then described.

Referring to FIG. 1, the system of the present invention comprises a server 10, a payment/purchasing database 20, a
20 cards database 30, a subscriptions database 40, a user database 50, an on-line games database 60, and a server interface 70. Users 80 communicate with server interface 70 via a communication network, which in the preferred embodiment is a global communications network such as the Internet. The databases and server 10 may be interconnected via the internet or a local network or some combination thereof as is well known in the art.

Server 10 comprises multiple hardware servers running standard Internet web server software, database software, and
30 other programming. In the preferred embodiment, server 10 utilizes GemStone database software.

Payment/purchasing database 20 defines the payment/purchasing mechanism and preferably includes a credit card processing system and an interface with a 900 telephone
35 number purchase/payment processing system. Database 20 may also include mechanisms for promotions, gift certificates, electronic cash, and other well known internet payment

options. Subscriptions database 40 defines a mechanism for allowing users to purchase releases of cards by subscription.

User database 50 includes information about the users and the cards they have received. This database is used to 5 register the users and includes all registration information and information concerning the cards obtained by each user.

Cards database 30 defines the card structure and hierarchy. The cards can of course be organized in any fashion -- as individual cards, as sets (including one or 10 more cards), or even portions of cards (where a user may, e.g., create his own card by purchasing different portions of a card). In the preferred embodiment, however, each card has a title, and the cards are organized into sets. Sets are in turn organized into series. And series are organized into 15 collections. There may be one or more collections per property where a property is, for example, one of the professional sports leagues or a popular television show or movie.

The cards may be purchased individually, in sets, by 20 series, or by collection. In the preferred embodiment, however, the cards are purchased in sets. A set may contain one or more cards. The sets preferably have a particular theme associated with them: e.g., Great Baseball Players of the 30's and 40's or Xena: Warrior Princess Episode X. 25 However, the cards may be based on any topic that is of interest. For example, the cards may relate to sports, television, movies, music, the arts, history, or any other entertainment or educational subject.

A user computer system that may be used with the system 30 of the present invention is depicted in FIG 2. The equipment includes a computer hard drive 90, a display monitor 100, a keyboard 110, a mouse 120, sound cards, speakers, and a modem or LAN card (for convenience these items are not depicted in FIG. 2). In the preferred embodiment, the minimum equipment 35 specifications and system software requirement are Win95/98/NT on a 486 based PC or MacOS 7.5+/8.X on a

Macintosh PowerPC or equivalent and a sound card, speakers, and a communications device (i.e., modem or LAN card).

FIG. 3 depicts in general flowchart form the preferred user registration process. All user registrations are currently handled via the Internet on the Server. As depicted in FIG. 3 at step 130, the user connects to the Internet via a computer system as is well known in the art. (It is possible to use any area communications network implementation with connectivity to the server.) Once the user has accessed the site, the user registers, e.g., by filling out a browser based form in which the user provides certain information and inputs a unique user identification code as is illustrated in steps 140-160. In the preferred embodiment this code includes a username and a password. As depicted in step 170, the user database 50 establishes a record for the user with all the requested information, assigns a unique registration number to the user, allocates a download directory to be used for all file downloads to the user's computer system, and creates a keyfile. This information may then be used to track all cards given or sold to the user, as well as other demographic information used for marketing and support purposes. The system may also allocate sample cards to the user at this time.

Also, in the preferred embodiment, the system may send a confirmation e-mail to the user as depicted in step 180. As shown in step 190, once the registration process is complete, the viewer may then download the viewer and any sample cards, or purchase cards.

The foregoing description of the process of registering a user is of course illustrative. In view of the foregoing, it is understood by those of skill in the art that other methods of registering a user such that the user and the cards obtained by the user are uniquely identifiable are available and within the scope of the present invention.

FIG. 4 is a flowchart depicting a preferred process for downloading a viewer to a user's computer according to the first preferred embodiment of the present invention. In

order to access the download page the user must first connect to the server and enter his username and password. In the preferred embodiment, once the user indicates that he would like to download the viewer, the server builds a custom
5 browser page which allows the registered user access to the viewer download page which links to the registered viewer installer and the keyfile unique to the registered user as depicted in steps 210-215. As shown in steps 220-225, the user may then download the viewer installer and the keyfile.
10 The foregoing discussion is of course illustrative of this preferred embodiment. In view of the foregoing, it is understood by those of skill in the art that other methods of downloading the viewer to a user's computer such that the viewer is uniquely associated with the user's computer are
15 available and within the scope of the present invention. For example, the system of the present invention does not make use of certain commercially available encryption technologies for the keyfiles or card files, nor does it make use of certain commercially available user authentication
20 methodologies or products. However, at such time that these commercially available products are suitably developed, maintained, and widely accepted and adopted, then the user database may store user public encryption keys and digital certificates. These keys and certificates would then be used
25 in order to use this information to encrypt/decrypt keyfiles and also as an additional method of user verification beyond username and password.

In the preferred embodiment for this embodiment, there are two components required for viewer installation: a) the
30 viewer installer and b) a keyfile. The keyfile used for a generic viewer installation contains generic information and so may be actually incorporated within a special viewer installer which is only capable of installing a generic viewer. This viewer installer may be delivered via the
35 Internet or via a CD-ROM. However, in the preferred embodiment, in order to install a registered viewer the registered keyfile must be obtained via the server.

FIG. 5 depicts the preferred process of installing a viewer on a user's computer according to the first embodiment of the present invention. First, the user clicks on filename to run installer (on a PC, the user may use a Run command to start installer) as depicted in step 230. The installer then presents the user with a license agreement for acceptance. As illustrated in steps 235-240, if the user accepts the agreement it proceeds, otherwise the installer quits. Next, in step 245, the installer confirms where the user wants to install the viewer.

If the user selects the same directory as an existing installation of the viewer, the installer will check to see if the registration number of the existing viewer is the same as the registration number of the current viewer being installed. If the registration number is the same, then the installer will ask the user if he wants to overwrite the prior installed version of the viewer. If the registration number is different, then the installer will prompt the user to select another directory. (The foregoing description of this mechanism, as illustrated in steps 250-300, allows different registered users to install multiple registered viewers on the same machine.)

If the user selects a directory that is not the directory of an existing viewer, the installer looks for the necessary keyfile (in the preferred embodiment, on a Windows system the installer can search the entire system, on Macintosh the keyfile must be present on the same volume as the installer program). If present, the installer continues. If the installer can't find the keyfile, the installer will prompt the user to locate the keyfile as depicted, e.g., in steps 320-360. Next, the installer sets up all necessary directories for the viewer to run and copies all necessary files and any included cards into the appropriate directories, and updates the viewer executable with the user's registration number as depicted in step 365. As a result, the viewer can only process a keyfile of that registered user. Lastly, as shown in step 370, the installer

may present the user with a "quickstart" text file to read which provides the user with information about the viewer and the cards.

The viewer is then ready to run as a generic or
5 registered viewer. If the viewer is registered, then the user can proceed with the installation of collectible cards.

FIG. 6 depicts the process for converting a previously downloaded and installed generic viewer into an installed registered viewer according to another preferred embodiment
10 of the present invention. In order to register this viewer, the user can start the installed generic viewer and click on a "register" button on his display monitor as depicted in step 380. The viewer will then automatically connect to the server 10 as illustrated in step 385.

15 After connection is made, the user enters his username and password as illustrated in step 390. The viewer then transmits this information to the Server 10. Once the server confirms that the username and password are correct, the viewer will register itself by downloading a keyfile which
20 stores the registration number uniquely associated with the user as depicted in step 410. A welcome screen confirming the connection may then be displayed as illustrated in step 420.

Preferably, once the viewer has been registered, the
25 register button changes to a "Get Cards" button. In this embodiment of the viewer, the button may then be used to directly connect to the site to retrieve previously purchased/obtained cards that are assigned to the user's account.

30 As mentioned above, the collectible cards are available for purchase via the Internet. The cards may be purchased individually, as a set, by series, by collection, or even as portions of cards to create a card unique to the user.

However, in the preferred embodiment, the cards are organized
35 for purchase as sets that each contain one or more cards.

Generally, for each property, a few sets of cards are made available for purchasing on the website for limited

periods. These sets may be described as current. Once that time period has elapsed, however, the sets are no longer current. Then, assuming the sets have not completely sold out, they may be purchased at the website in an out-of-print 5 archived section of the site. These archived sets may be priced higher than their corresponding current sets. An algorithm calculates the price. The price could account for a number of attributes, such as age, rarity, the type of set, and the number of sets yet to be purchased.

10 As an incentive for users to purchase the cards, one of the sections of the website (preferably, the purchase section) may include a countdown window. The countdown window indicates how many sets have been issued, as well as the number of sets that have yet to be purchased.

15 Also included in a section of the website, preferably in the purchase section, is a listing of the value of all issued cards. The value of each card may be calculated via an algorithm. The value of the issued cards may depend on many attributes, including age, rarity, the type of card, and 20 whether the cards have sold out. The value may also take into account the prices of the card and/or the value of any swapped card that was the subject of a trade via two users' viewers and the server (the trading process is discussed in detail below in connection with FIG. 19). In addition to the 25 value of each card issued, the section may also list the date that each card was issued, the quantity originally issued, and the number of cards originally issued.

Moreover, promotional numbers may be generated which allow for the allocation of cards in different ways. For 30 example, a predetermined number of cards may be issued against a list of unique codes. Users are then given the unique codes which when entered with their usernames and password cause the cards to be allocated to their account. Furthermore, one particular code may be issued which can be 35 given to any number of users to enter along with their username and password. The first N number of users who enter

the code in a given time period could download the card subject to availability.

Gift certificates may also be purchased. The certificates preferably include a gift identification code 5 which when entered with a username and password will credit that user's account with the amount of the gift certificate.

FIG. 7 depicts in general flowchart form a preferred process for a user's purchase of a collectible card. In the preferred embodiment, the user selects the desired set(s) of 10 collectible cards that he wishes to purchase.

Illustratively, the user may select from: 1) for current releases: Set N, Set N+1 or both sets with a bonus card; and 2) for archived releases: Set X. As illustrated in step 430, sets are available for each property.

15 The user then selects a payment method (credit card or via bill to phone) as shown in step 440. Next, the user provides payment information (e.g., credit card information or PIN code information obtained from 900# call) along with his username and password. Of course, other well known 20 payment methods may be utilized, such as checks on-line, CyberWallets, e-cash, etc.

The purchase/payment database 20 then processes the transaction (see steps 445-505 and 510-545) and associates the next available serial number of the collectible card(s) 25 with the user's account. Next, the user database then builds a keyfile update and places it in a directory allocated to the user as depicted in step 550.

FIG. 8 illustrates the preferred process for downloading a set containing collectible card(s) to a user's computer 30 according to the first embodiment of the present invention. In order to initiate the download, the user must connect to the server 10 and enter his username and password as depicted in steps 560-565. (The user may access the download page after registering in the case that cards have been provided 35 to the user's account upon registering as depicted by step 558.) The user accesses the download center web page and the server 10 then builds a custom browser page which allows the

registered user access to the card download page which provides links to installers for all collectible cards registered to the user's account, as depicted in steps 575-580. As illustrated in steps 585-595, the user may then 5 download the card installer and the keyfile update file.

In this preferred embodiment, there are two components required for the installation of collectible card(s): a) a card installer and b) a keyfile update file.

There is no restriction on how the installer relates to 10 content. However, in this preferred embodiment, each installer is designed to process a specific named keyfile update file, so when defining the set in the database the keyfile update file must be named so that the installer will recognize it. Each keyfile update file is generated 15 specifically for the registered user and for the serial number(s) of the collectible card(s) that were acquired. The keyfile update file is used to update the keyfile of the registered user.

FIG. 9 depicts in general flowchart form a preferred 20 process for installing a set containing collectible card(s) on a user's computer according to the first embodiment of the present invention. As depicted in step 600, the user clicks on filename to run installer (on a PC user may use Run command to start installer). Next, the installer may present 25 the user with a license agreement for acceptance. If the user accepts the agreement, it proceeds; otherwise the installer quits (see steps 605-610). The installer then looks for a keyfile update file with the name the installer is programmed for (in the preferred embodiment, on a Windows 30 system the installer can search the entire system, on Macintosh the keyfile update must be present in the same directory as the installer). As illustrated in steps 615-635, if present, the installer continues, if the installer can't find the keyfile update, the installer will prompt the 35 user to locate the file. Next, as illustrated by step 640, the installer will search for the viewer. If it is not located in a default directory (see step 645), the installer

asks the user to point to his installed registered viewer (see step 650). As shown in steps 655 and 665, the installer checks to see if the registration number of the viewer is the same as the registration number of the current collectible 5 card(s) being installed. If the registration number is different, then the installer will inform the user that the viewer is registered to another account and prompt the user to find the correct registered viewer (see step 660). If the registration number is the same, then the installer will 10 install the collectible card(s) and update the keyfile. That is, as depicted in step 670, the installer copies the cards into the cards directory, renames and places the keyfile update file in a directory, and may also write the latest version of the license agreement into the main directory.

15 Upon completing the installation the installer closes itself.

In the other embodiment of the present invention, the viewer may control the downloading/installation process of collectible cards that have been previously registered to the user's account. FIG. 10 illustrates this process. In this 20 preferred embodiment, the viewer has a "Get Cards" button which connects the user to the server 10 and sends the user's username and password to the server (see steps 680-690). Once the user database 50 has confirmed that the username and password are correct, and that the viewer has been 25 registered, the viewer will download a new keyfile as shown in step 700. That is, a new keyfile is downloaded each time the user logs on with the viewer. As illustrated by step 705, a welcome screen is then preferably displayed. (Note that this is the same welcome screen that is displayed after 30 a user registers a generic viewer as described above in connection with FIG. 6.) As depicted by step 710, the viewer then will display a list of all sets containing collectible card(s) that had been previously registered to the user's account (i.e., cards which have been previously purchased or 35 given to the user), but had not been previously downloaded. The user may then select the sets to be downloaded as shown in step 720. The cards that the user selects for downloading

are then downloaded card by card and automatically placed in the viewer's card directory (see step 730). Once the downloading is complete, a confirmation screen is displayed and the viewer may ask the user if he wishes to download more 5 cards (see steps 740-750). As depicted in step 760, the main screen of the viewer is then preferably displayed if the user does not wish to download any more cards.

The operation of the preferred viewer user interface will now be discussed in connection with FIGS. 11 (a) and 11 10 (b). In the preferred embodiment, the viewer first runs a test of the user's system to see how fast the system runs and stores a value related to the system performance which can be accessed by the cards (see step 775). As depicted in step 780, when the viewer starts up it presents a login screen to 15 the user, and the user enters his username and password. As illustrated in step 785, the viewer compares the username and password to the one in the keyfile associated with the registration number of the viewer. If they don't match, an error message may be displayed which prompts the user to re- 20 enter the information (see step 790). Upon successful login, the viewer processes any pending keyfile update files and adds any new cards to the keyfile as shown in step 795. (This step is optional if the viewer includes a connect feature as in the embodiment described in connection with 25 FIGS. 6 and 10 because each time the user connects to the Server 10 a new keyfile is downloaded.) As shown in FIG. 11(b), the viewer then presents a playing screen to the user with four options: Open, Close, Quit, and About, plus a volume control slide bar. (In the embodiment described in 30 connection with FIGS. 6 and 10, a Help Button and the previously described Register/Get Cards button is also displayed.)

As illustrated in FIG. 11(b), in the preferred embodiment, the "Open" option presents the user with pull- 35 down menus that display, for each collection, all the sets of collectible cards that have been installed into the users viewer. Of course, other methods of assembling the cards are

available. For example, the cards may be displayed by team, film genre, etc. Advantageously, the user's cards can be arranged and viewed in any fashion the user chooses.

In the preferred embodiment, once the user selects a 5 particular collection, the sets that the user owns within the collection are presented for selection. Once a set is selected, the viewer uses the information in the keyfile to locate the collectible cards by file name as shown in steps 850-860. Again, the collectible cards are packaged in such a 10 way that they can only be run by a viewer, and then only by a viewer registered to the same user as the collectible card is registered.

Upon opening the collectible card, as depicted in step 870, the viewer unpacks the enclosed video file from the 15 encrypted collectible card file to make it available for viewing. In the preferred embodiment, this encapsulated video is a QuickTime video. The video is stored temporarily in a system directory using a cryptic filename and made available for access by the cards. The viewer also passes on 20 control to the cards (see step 880) and makes stored information and central routines available to the cards for their operation including information on the system performance of the computer on which the cards are installed.

As depicted in steps 810-830, if the user clicks on the 25 About button a release number, the username, and the user's register number are displayed. As depicted by step 890, the Close button closes any open card in the viewer window. Finally, the user may press the Quit button to close down the 30 viewer, which deletes any temporary files as illustrated in step 840.

In the preferred embodiment, the viewer is a Macromedia Director "projector" application. Macromedia Director is available commercially from Macromedia, Inc. Director allows one to create a variety of interactive multimedia 35 productions. A compiled Director application, called a "projector" contains the ability to present any kind of media, or run any code that Director itself is capable of understanding.

The Director development tool presents the developer with an interface that allows the developer to integrate popular media types such as photos, illustrations, sounds, and videos into a movie. Director also provides tools for 5 editing and animating text, images, and sounds as well as extensive native scripting (i.e., programming) abilities, which allow the developer to extend the functions of the development platform beyond supported functions and offers more precise handling of events within the movie being 10 developed.

A description of the cards follows. In the preferred embodiment, each card is an individual Macromedia Director "Shockwave" movie such that each card may be opened in an individual window (called a Movie in a Window, or MIAW, in 15 Director parlance). Advantageously, each card is designed to be a self-contained, encapsulated entity containing all of the media it needs to play. The cards however, as discussed above, require that the viewer be present in order to play, and will not run in any other environment that supports 20 Shockwave including, for example, a browser with a standard plug-in.

While Director supports the incorporation of text, artwork, photos and sounds within a Shockwave file, it does not natively support the incorporation of QuickTime videos. 25 However, Macromedia Director is designed to be an open-architected development platform and as such it allows for the incorporation of additional features and functions that are not natively supported by Director. Such additional features and functionalities are known in the art as Xtras.

30 Advantageously, the cards and the viewer are designed such that the QuickTime video files are incorporated into the Shockwave files by utilizing an Xtra and a related packaging application. Such incorporation allows for more convenient transport and storage and prevents unauthorized separation 35 and use of the QuickTime movie. This is accomplished by the packaging application wherein one enters an instruction to

package the QuickTime movie inside the MacroMedia Director Shockwave file which gives it a description.

The description may then be used by the viewer to unpack the QuickTime video file from within the Shockwave 5 file. The viewer unpackages the video by searching for the QuickTime file that has been packaged within the Shockwave file. Once located, the video is then extracted from the file and stored temporarily in a system directory using a cryptic filename and made available for access by the cards, 10 as discussed above in connection with the description of FIG. 11(b).

In the design of the cards, Lingo (Director's scripting language) objects are used. The internal database is maintained as a list of card objects. Whenever a card is 15 opened by the viewer, one or more objects are instantiated that represent the model of the card, and include properties such as the card's name, its current dimensions, what other cards it may interact with, and other information controlling games and animations incorporated into the card. Methods 20 control animations, sense the proximity, location, and patterns formed by other cards on the screen, and exchange information with objects of other cards.

When cards are opened they are presented in the viewer's screen in an initial configuration. For example, in the 25 preferred embodiment, the selected set is displayed (see FIG. 12). Advantageously, the cards may contain multiple fronts. For example, in the preferred embodiment, each card has two "fronts": a photo front (FIG. 12) and a video front (FIG. 13). The photo front includes artwork (e.g., a photo, an 30 illustration, or an enhanced photo composition).

When a card is initially opened the photo front is first presented to the user. The photo front allows transition to: a) the video front by double-clicking some portion of the photo front, or, b) to the back(s) of the card by clicking on 35 the designated flip button. In the preferred embodiment, the flip button 900 is on the lower right hand corner of the photo front.

The Director features and its scripting language are used for the transition and navigation features between card faces and features as well as to provide the logic for the trivia and hidden display features to be discussed below.

- 5 When the video front is launched, it preferably automatically starts playing its video. Video controls 910 are included which allow the user to stop and re-start the video, change the frame within the video which is being displayed and restart the video, play the video backward and 10 forward, and even go through the video frame by frame. The video can include audio as well. The user may control the audio volume via the viewer. The video front includes a button 920 to return to the photo front as well as a flip button 900 to transition to the back of the card.
- 15 When the card is flipped a transition effect is played, which is based on the speed of the system being used. Once the transition effect is played, the first of preferably multiple card backs is displayed. In the preferred embodiment, each card back (see e.g., FIG. 14) shares a 20 similar navigation control panel 940, which indicates which card back is active through the highlighting of "buttons", as well as a flip button 900 which allows the user to return to the front(s) of the cards.

- An illustrative Info back of a card is shown in FIG. 14.
- 25 In this Major League Baseball Card, the user may click on Info, Stats, Bio, and Trivia. (In the preferred embodiment, whenever the user transitions from one of the card fronts to the card back(s), the Info Back is presented first.) The Info Back provides information about the player featured on 30 the card. It may also contain any necessary legal notices, and logos that may be required. Since the collectible cards are digital and not printed, there is a diminished ability to show legal information legibly in small print and thus, a card's Info Back may contain a pop-up window which contains 35 more complete copyright and other legal notice information.

From the Info Back the user can directly navigate to any of the other backs or flip to the front. If the user flips

to the front from any card back, the photo card is the default front face displayed.

Advantageously, the viewer passes along ownership information to the collectible cards so that a user can see which serial number 960 is assigned to the collectible card when the collectible card is being viewed. In the case of a user owning multiple versions of the same collectible card (and therefore multiple serial numbers), the collectible card will allow the user to see all serial numbers for the card in a drop down box 960 on the back of the collectible card.

FIG. 15 shows an illustrative Stats Back for a Major League Baseball Card. This Stats Back includes a scroll bar 970 which allows for a full history of the player's statistics rather than a few lines typical of a physical trading card.

FIG. 16 shows an illustrative Bio Back. The Bio Back incorporates the ability to scroll up and down through a text screen allowing a more comprehensive write-up of the player than a physical trading card.

FIG. 17 shows an illustrative Trivia Back. In the preferred embodiment, the Trivia Back presents different screens to the user, each screen containing a question, possible answers and an animation with audio that plays differently based on whether a correct or incorrect answer is selected. For example, if an incorrect answer is selected, the animation plays the negative animation and sound effect. If a correct answer is selected the animation plays the positive animation and sound effect and then the user is presented with an explanation of the correct answer providing more insight into the question. The correct answer is displayed on that question until the card is closed and reopened.

The cards may also include a game which may be played off-line. In the preferred embodiment, the game is included on one of the back faces of the card. For instance, a baseball card could include a baseball game. Or, a card

relating to a television show or a movie could include a game relating to that show or movie.

While the illustrative example focused on multiple fronts and backs for a sports card. It is understood that 5 similar fronts and backs may be utilized in connection with cards relating to all topics of interest. For example, in connection with a television show, one back may include information concerning the episode from which the video front is from. Another back may include trivia questions about the 10 show with accompanying animated feedback, etc.

Advantageously, the cards may be operated independently and can be dragged around the viewer's playing window by clicking within any card back or card front and holding down the mouse button while moving the mouse. And, when a 15 complete set (or other predetermined number of cards) are opened, and all cards are open to a predetermined card back (e.g., preferably the Info Back for sports cards) and those cards have been arranged by the user in a predetermined arrangement -- e.g., so that they are in close proximity to 20 one another and arranged 2-on-top/2-on-bottom for a set of 4 cards and 3-in-a-row for sets of 3 Cards -- then a surprise feature is displayed.

In the preferred embodiment, this feature consists of a hidden photo which is pieced together like a puzzle from the 25 card backs, as is illustrated in FIG 18. The hidden photo may then be printed as a poster, or the like. The surprise may also comprise a special audio clip, a special game, or an extra video clip.

30 All the foregoing references to the front and back faces of the cards are illustrative of the preferred embodiment. Of course, the subject matter described in connection with a front or a back face of a card may be on any of the multiple faces of the cards.

35 While the cards, once downloaded, are viewable off-line via the user's viewer, the system of the present invention

allows the user to receive real-time current information which is viewable within the card itself. For example, the Stats Back may link to the Server to obtain current statistics of the particular sports player which would be 5 viewable substantially simultaneously within the card. The Bio Back can similarly include a description of the player's recent performances. Similarly, a video available on-line via the Server may include a recent highlight.

10 Other cards can connect to a special site (accessible via the Server 10) to download streaming audio, e.g., of particular artists. It is understood that other types of real-time data can be accessed via a collectible card on-line and generally simultaneously viewed or listened to within the 15 card. U.S. Patent No. 5,778,187 describes a system for streaming real-time information to users via a communications network, and this patent is hereby incorporated by reference.

Moreover, on-line games can be played on the Internet that utilize the cards or the card's ownership.

20 Advantageously, these games can be played with or without the viewer since ownership information is stored both in the viewer as well as in the user database 50. Still further, games may be included within the cards to be played on-line. For the on-line games, the user connects to the Internet to 25 link to more functions available via the server 10 and on-line games database 60 and/or to connect to other users.

In the preferred embodiment of the on-line game, the viewer allows a user to field a team from the cards that are 30 registered to him. The team may be kept in a file created by the viewer. Preferably, the user selects a player for each of the positions on the field when selecting his team. The user could then play a fantasy baseball game against "the computer" (i.e., a team selected by the user or by the on-line game database to play against the user) or against 35 another user via the communication network.

The team selected by the user could be either players from one team or an all-star like team comprised of players from different teams and even different eras. For example, one user may choose a 1930's era Yankee team (assuming the 5 cards are registered to the user) and another user may choose a 1970's Cincinnati Reds team (assuming the cards are registered to the user) to be played against each other.

Preferably, the on-line games database controls the 10 game. Advantageously, the probability of a player getting a hit, and even the type of hit, striking out, etc. takes into account both the pitcher's and the hitter's statistics. (The statistics may include the statistics listed on the back of the card as well as other statistics either within the card 15 or more preferably on the on-line game database and/or the cards database.) Particularly, the pitcher's earned run average and the hitter's batting percentage and hitting statistics generally, and even against the pitcher he is facing, may determine the outcome of the at-bat.

20 Once the on-line game determines the outcome of a pitch, an audio and/or visual display depicting the outcome of the pitch is shown on the user's computer in the user/computer game and on both of the users' computers in the head-to-head game. Defensive errors and plays also take into account a 25 particular defensive player's relevant statistics (e.g., fielding percentage and errors). Moreover, the chances of a particular player stealing a base (assuming a user or "the computer" chooses to attempt to steal) also takes into account the player's relevant statistics as well as the 30 catcher's relevant statistics. Also, users and "the computer" have the option of substituting players during the game. An entire fantasy baseball game is played in this fashion.

35 While the foregoing description focused on a fantasy baseball game, it is understood that other on-line games using cards registered to a user's account are also available

and within the scope of the present invention. Moreover, while games are preferably played via the on-line games database, the viewer may include versions of games to be played against "the computer."

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Finally, as indicated above, on-line games requiring ownership of cards but not played through the viewer are available via server 10 and on-line games database 60. Advantageously, the user's ownership of a particular player (as evidenced by ownership of a card) is checked on-line without requiring the user to open the card itself.

FIG. 19 illustrates how the collectible cards may be traded. Once a selling user and a buying user agree to terms of a trade, the selling user opens his viewer and clicks on a Trade Cards button as depicted by step 1000. The viewer then connects to the server (see step 1010). Next, the user may mark the collectible cards to be traded (see step 1020). The viewer then updates the keyfile to remove the key for the collectible card and sends a confirmation signal to the server, as depicted in step 1030. The server then marks the collectible card(s) in the selling user's account in the User Database 50 as being available for trading. The selling user logs into the server to communicate the terms of the trade to the server and indicate how payment, if any, is to be received (onto credit card or as credit to account) as shown in steps 1050-1060. Next, the server assigns an identifier to the transaction and communicates that identifier to the seller (see step 1070). The selling user then communicates the identifier to the buying user (see step 1080). Next, as shown in step 1090, the buying user enters his username and password, along with the identifier to the server and provides the appropriate payment information. The server transfers the ownership information in the selling user's account in user database 50 to the buying user's account (1110). The buying user could then download his newly acquired collectible cards. Of course, this process would be

followed by each user, if the two users are trading cards to one another (i.e., swapping cards).

Advantageously, the seller is able to cancel the sale at any time prior to the change in ownership on the server 10 and download his keyfile(s) with his ownership fully restored. Whenever a viewer downloads a new keyfile, it compares the keyfile to the available card files. If there are card files present that have no entry in the keyfile the viewer will delete the card file. Thus, after the selling user makes the last of a particular card available for sale, the viewer will automatically clean up the selling user's system of the card.

As mentioned above, a generic viewer may be installed via a CD-ROM. The CD-ROM contains, for example, a viewer to be installed on the user's computer, a few unlimited (i.e., not collectible) digital trading cards and a generic keyfile. Until the user registers his generic viewer, however, the user may not be able to purchase collectible cards. After the user registers at the website (see FIG. 4), the user may download a special installer program that will replace the generic keyfile with a keyfile which uniquely associates the viewer with the user so that the user may download collectible cards to his viewer.

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This CD-ROM may also contain an installer for users who have previously registered at the website and which have registered viewers. Users having registered viewers can then install any unlimited cards located on the CD-ROM on their registered viewer. Moreover, the CD-ROM may also contain collectible cards that may be installed on a viewer but which are not accessible until they are purchased on the website. This option avoids having to download these cards if the user chooses to register them from the website.

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While the invention has been described in conjunction with specific embodiments, it is evident that numerous

alternatives, modifications, and variations will be apparent to those skilled in the art in light of the foregoing description.

5 For example, while the present invention has been described as a collection system for trading cards. Other collectible digital objects are also within the scope of the present invention. Such collectible objects include interactive games, electronic books, photos, animations, and
10 other audio and/or visual presentations. Moreover, the multi-media objects may be multi-dimensional and may be manipulated by the user.

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